

1	M	T	L	E	S	I	M	A	C	C	-	-	-	L	S	E	E	A	K	E	A	R	R	I	N	D	E	I	E	R	Q	L	R	R	D	K	R	D	A	R	hGg
1	M	A	R	S	L	T	W	G	C	C	P	W	C	L	T	E	E	E	K	T	A	A	R	I	D	Q	E	I	N	R	I	L	L	E	Q	K	K	Q	E	R	G15
1	M	A	R	S	L	T	W	R	C	C	P	W	C	L	T	E	D	E	K	A	A	A	R	V	D	Q	E	I	N	R	I	L	L	E	Q	K	K	Q	D	R	G16
38	R	E	L	K	L	L	L	L	G	T	G	E	S	G	K	S	T	F	I	K	Q	M	R	I	I	H	G	S	G	Y	S	D	E	D	K	R	G	F	T	K	hGg
41	E	E	L	K	L	L	L	L	G	P	G	E	S	G	K	S	T	F	I	K	Q	M	R	I	I	H	G	V	G	Y	S	E	E	D	R	R	A	F	R	L	G15
41	G	E	L	K	L	L	L	L	G	P	G	E	S	G	K	S	T	F	I	K	Q	M	R	I	I	H	G	A	G	Y	S	E	E	R	K	G	F	R	P	G16	
78	L	V	Y	Q	N	I	F	T	A	M	Q	A	M	I	R	A	M	D	T	L	K	I	P	Y	K	Y	E	H	N	K	A	H	A	Q	L	V	R	E	V	D	hGg
81	L	I	Y	Q	N	I	F	V	S	M	Q	A	M	I	D	A	M	D	R	L	Q	I	P	F	S	R	P	D	S	K	Q	H	A	S	L	V	M	T	Q	D	G15
81	L	V	Y	Q	N	I	F	V	S	M	R	A	M	I	E	A	M	E	R	L	Q	I	P	F	S	R	P	E	S	K	H	H	A	S	L	V	M	S	Q	D	G16
118	V	E	K	V	S	A	F	E	N	P	Y	V	D	A	I	K	S	L	W	N	D	P	G	T	Q	E	C	Y	D	R	R	R	E	Y	Q	L	S	D	S	T	hGg
121	P	Y	K	V	S	T	F	E	K	P	Y	A	V	A	M	Q	Y	L	W	R	D	A	G	I	R	A	C	Y	E	R	R	R	E	F	H	L	D	S	A	G15	
121	P	Y	K	V	T	T	F	E	K	R	Y	A	A	A	M	Q	W	L	W	R	D	A	G	I	R	A	C	Y	E	R	R	R	E	F	H	L	D	S	A	G16	
158	K	Y	Y	L	N	D	L	D	R	V	A	D	P	A	Y	L	P	T	Q	Q	D	V	L	R	V	R	V	P	T	T	G	I	I	E	Y	P	F	D	L	Q	hGg
161	V	Y	Y	L	S	H	L	E	R	I	S	E	D	S	Y	I	P	T	A	Q	D	V	L	R	S	R	M	P	T	T	G	I	N	E	Y	C	F	S	V	K	G15
161	V	Y	Y	L	S	H	L	E	R	I	T	E	E	G	Y	V	P	T	A	Q	D	V	L	R	S	R	M	P	T	T	G	I	N	E	Y	C	F	S	V	Q	G16
198	S	V	I	F	R	M	V	D	V	G	Q	R	S	E	R	R	K	W	I	H	C	F	E	N	V	T	S	I	M	F	L	V	A	L	S	E	Y	D	Q	hGg	
201	K	T	K	L	R	I	V	D	V	G	Q	R	S	E	R	R	K	W	I	H	C	F	E	N	V	I	A	L	I	Y	L	A	S	L	S	E	Y	D	Q	G15	
201	K	T	N	L	R	I	V	D	V	G	Q	K	S	E	R	K	K	W	I	H	C	F	E	N	V	I	A	L	I	Y	L	A	S	L	S	E	Y	D	Q	G16	
238	V	L	V	E	S	D	N	E	N	R	M	E	E	S	K	A	L	F	R	T	I	I	T	Y	P	W	F	Q	N	S	S	V	I	L	F	L	N	K	K	D	hGg
241	C	L	E	E	N	D	Q	E	N	R	M	E	E	S	L	A	L	F	S	T	I	L	E	L	P	W	F	K	S	T	S	V	I	L	F	L	N	K	T	D	G15
241	C	L	E	E	N	N	Q	E	N	R	M	K	E	S	L	A	L	F	G	T	I	L	E	L	P	W	F	K	S	T	S	V	I	L	F	L	N	K	T	D	G16
278	L	L	E	E	K	I	M	Y	S	H	L	V	D	Y	F	P	E	Y	D	G	P	Q	R	D	A	Q	A	A	R	E	F	I	L	K	M	F	V	D	L	-	hGg
281	I	L	E	D	K	I	H	T	S	H	L	A	T	Y	F	P	S	F	Q	G	P	R	R	D	A	E	A	A	K	S	F	I	L	D	M	Y	A	R	V	Y	G15
281	I	L	E	E	K	I	P	T	S	H	L	A	T	Y	F	P	S	F	Q	G	P	K	Q	D	A	E	A	A	K	R	F	I	L	D	M	Y	T	R	M	Y	G16
317	-	-	-	-	-	N	P	D	S	D	K	I	N	-	-	-	-	-	-	Y	S	H	F	T	C	A	T	D	T	E	N	I	R	F	V	F	A	A	V	K	hGg
321	A	S	C	A	E	P	O	D	G	G	R	K	G	S	R	A	R	R	F	F	A	H	F	T	C	A	T	D	T	Q	S	V	R	S	V	F	K	D	V	R	G15
321	T	G	C	V	D	G	P	E	G	S	K	K	G	A	R	S	R	R	L	F	S	H	Y	T	C	A	T	D	T	Q	N	I	R	K	V	F	K	D	V	R	G16
346	D	T	I	L	Q	L	N	L	K	E	Y	N	L	V																										hGg	
361	D	S	V	L	A	R	Y	L	D	E	I	N	L	L																										G15	
361	D	S	V	L	A	R	Y	L	D	E	I	N	L	L																										G16	

FIG. 1

205070" 2646660

1 = mouse

2 = human

1MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIQMRIIHGSGYSDE
2MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIQMRIIHGSGYSDE

DKRGFTKLVIYQNIPTAMQAMIRAMDTLKIPIKYEHNKAAHQLVREVDVEKVSAFENPYVDAIKSLWNDPG
DKRGFTKLVIYQNIPTAMQAMIRAMDTLKIPIKYEHNKAAHQLVREVDVEKVSAFENPYVDAIKSLWNDPG

IQECYDRRREYQLSDSTKYILNDLDRVADPSYLPTQQDVLVRVPTTGIIIEYPFDLQSVIFRMVDVGGQR
IQECYDRRREYQLSDSTKYILNDLDRVADPAYLPTQQDVLVRVPTTGIIIEYPFDLQSVIFRMVDVGGQR

SERRKWIHCFENVTSIMFLVASEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
SERRKWIHCFENVTSIMFLVASEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE

EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ

LNLKEYNLV

LNLKEYNLV

FIG. 2

Sequence ID#1

mGq

MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAAHAQLVREVDVEKVS AFENPYVDAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPSYLP TQODVLRVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#2

mGq (ΔN)

MACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAAHAQLVREVDVEKVS AFENPYVDAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPSYLP TQODVLRVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#3

mGq (HA)

MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPSYLP TQODVLRVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#4

mGq (ΔN-HA)

MACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPSYLP TQODVLRVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#5

mGq (ΔN-HVD-HA) from Kostenis et al 1998

MACCLSEEAKEARRINDEIERHVRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPSYLP TQODVLRVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

FIG. 3A

Sequence ID#6

mGq (ΔN-HVD-HA) -t5

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKL VYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGI IEYPFDLQSVI FRMVDVGGQR
SERRKWIHC FENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKDCGLF

Sequence ID#7

mGq (ΔN-HVD-HA) -t44

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKL VYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGI IEYPFDLQSVI FRMVDVGGQR
SERRKWIHC FENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDNMRDVKEIYSHMTCATDTQNVKFVFAVTDI I K
ENLKDCGLF

Sequence ID#8

mGq (ΔN-HVG-HA)

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKL VYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGI IEYPFDLQSVI FRMVDVGGQR
SERRKWIHC FENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#9

mGq (HVG-HA)

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKL VYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGI IEYPFDLQSVI FRMVDVGGQR
SERRKWIHC FENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#10

mGq (D-HA)

MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKL VYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGI IEYPFDLQSVI FRMVDVGGQR
SERRKWIHC FENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKI IYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

FIG. 3B

Sequence ID#11

mGq (HVD-HA)

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVSADFVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#12

mGq (HVG-HA) -t5

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVSADFVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKDCGLF

Sequence ID#13

mGq (HVD-HA) -t5

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVSADFVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKDCGLF

Sequence ID#14

mGq (Δ N-HVD-HA) -olf5

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVSADFVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKQYELL

Human Sequences Tested

Sequence ID#15

hGq

MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVSADFENPYVDAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPAYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNAV

Sequence ID#16

hGq (Δ N)

MACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVSADFENPYVDAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNAV

FIG. 3C

Sequence ID#17

hGq (ΔN-HVD-HA)

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPSYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLValseyDQVLVESDNENRMEESKALFRTIIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#18

hGq (ΔN-HVD-HA) -t5

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPAYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLValseyDQVLVESDNENRMEESKALFRTIIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKDCGLF

Sequence ID#19

hGq (ΔN-HVD-HA) -t44

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPAYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLValseyDQVLVESDNENRMEESKALFRTIIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDNMRRDVKEIYSHMTCATDTQNVKFVDAVTDIIK
ENLKDCGLF

Sequence ID#20

hGq (D-HA)

MTLESIMACCLSEEAKEARRINDEIERQLRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPAYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLValseyDQVLVESDNENRMEESKALFRTIIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

Sequence ID#21

hGq (HVD-HA)

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLLNDLDRVADPAYLP TQQDVL RVRVPTTGII EYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLValseyDQVLVESDNENRMEESKALFRTIIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKEYNLV

FIG. 4A

Sequence ID#22

hGq (HVG-HA) -t5

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPAYLPTQQDVLVRVPPTGTGIEYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKDCGLF

Sequence ID#23

hGq (HVD-HA) -t5

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYSAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPAYLPTQQDVLVRVPPTGTGIEYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKDCGLF

Sequence ID#24

hGq (ΔN-HVD-HA) -olf5

MACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPAYLPTQQDVLVRVPPTGTGIEYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKQYELL

Sequence ID#20

hGq (HVG-HA) -t5

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSGYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPAYLPTQQDVLVRVPPTGTGIEYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKQYELL

Sequence ID#26

hGq (HVD-HA) -t5

MTLESIMACCLSEEAKEARRINDEIERHVRRDKRDARRELKLLLLGTGESGKSTFIKQMRIIHGSDYSDE
DKRGFTKLVIYQNI FTAMQAMIRAMDTLKI PYKYEHNKAHAQLVREVDVEKVS AFDVDPDYAAIKSLWNDPG
IQECYDRRREYQLSDSTKYLYLNDLDRVADPAYLPTQQDVLVRVPPTGTGIEYPFDLQSVIFRMVDVGGQR
SERRKWIHCFENVTSIMFLVALSEYDQVLVESDNENRMEESKALFRTIITYPWFQNSSVILFLNKKDLLE
EKIMYSHLVDYFPEYDGPQRDAQAAREFILKMFVDLNPDSDKIYSHFTCATDTENIRFVFAAVKDTILQ
LNLKQYELL

FIG. 4B